

REMARKS

Claims 1-12 are pending in this application. By this Amendment, claim 1 is amended. Claim 13 is canceled without prejudice to, or disclaimer of, the subject matter recited in that claim. Reconsideration of the application based on the above amendments and the following remarks is respectfully requested.

The Office Action, in paragraph 2, objects to claims 1-13 because of informalities. Specifically, claim 1 is objected to for reciting "composition characterized in that." Applicants respectfully submit that there is no informality in Applicants' language choice in this regard. In an effort, however, to advance prosecution of this application, claim 1 is amended in part as suggested in the Office Action thereby obviating any objection to claim 1, and the claims depending therefrom. Additionally, the Office Action, in paragraph 2, objects to the term "the polymer is a dextrin ester compound." Applicants respectfully submit that there is no informality about this language either. As such, Applicants choose to leave claim 7 in its unamended form. Withdrawal of the objections to the claims for informalities is respectfully requested.

The Office Action, in paragraph 5, rejects claims 1, 2 and 4-13 under 35 U.S.C. §102(b) as being anticipated by EP 1 150 343 A2 to Rutter et al. (hereinafter "EP '343"). The Office Action, in paragraph 6, rejects claims 1-13 under 35 U.S.C. §102(e) as being anticipated by EP 1 315 045 A1 to Takei et al. (hereinafter "EP '045"). The Office Action, in paragraph 7, rejects claims 1, 2 and 4-13 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,919,599 to Meador et al. (hereinafter "Meador"). These rejections are respectfully traversed.

Claim 1 recites a gap fill material forming composition wherein the composition is used in manufacture of semiconductor device by a method comprising coating a photoresist on a substrate having a hole with aspect ratio shown in height/diameter of 1 or more, and

transferring an image to the substrate by use of lithography process, the composition is used in a process in which the composition is coated on the substrate, is contacted with an alkaline aqueous solution after baking, then the photoresist is coated, the composition comprises a polymer having a hydroxy group or a carboxy group and a crosslinking agent, and a gap fill material layer manufactured by coating the gap fill material forming composition on a semiconductor substrate and baking it has a dissolution rate for an alkaline aqueous solution having a concentration of 0.1% to 20% ranging from 3 to 200 nm per second. The amendments to claim 1 incorporate the subject matter of claim 13.

The gap fill material that is the subject matter of the pending claims is coated on a substrate having an unevenness to form a coated film as a gap fill material. The film is contacted with an alkaline aqueous solution to flatten the film surface, and a recess is coated thereon. A polymer having very distinct properties is used such that the recited process can be carried out only with contact with an alkylene aqueous solution and does not require any step, for example, of transferring to a dry etching apparatus in which an etching as is used such as those required in prior art processes.

EP '343 teaches a filling composition containing a monomer having at least one hydroxy group, an acid catalyst and a crosslinking agent. The composition disclosed in EP '343 is, however, used in an etching process by dry etching gas, and is not compatible with a process using an alkaline aqueous solution.

EP '045 teaches a gap filling material forming composition containing a hydroxy styrene polymer and a crosslinking agent. The gap filling material is subjected to dry etching by use of a recessed pattern formed by resist coating on the gap filling material. It is not used in an etching process by an alkaline aqueous solution, as is positively recited, among other features, in independent claim 1. Further, the coated film in EP '045 has a low solubility in alkaline

aqueous solution due to the presence of hydroxy styrene polymer and is therefore not suitable to process such as is positively recited in independent claim 1.

Meador teaches an anti-reflective coating forming composition containing a polymer in which an acrylic resin and a dye contain a hydroxy ether moiety or hydroxy ester moiety, a crosslinking agent, a protonic acid catalyst and a solvent. In Meador, an anti-reflective coating is formed on a substrate, then a resist is coated thereon. The resist is resolved after exposure to light. The anti-reflective coating and the substrate are processed with etching gas by use of the resulting resist pattern. As such, the anti-reflective coating is now required to exhibit any specific dissolution rate in a specific alkaline aqueous solution, as is positively recited, among other features, in independent claim 1.

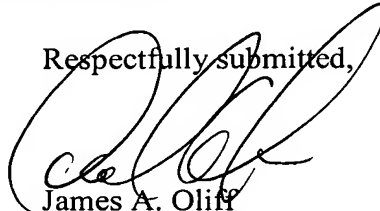
For at least the reasons indicated above, none of EP '343, EP '045 or Meador explicitly or impliedly teach the combination of all of the features positively recited in independent claim 1. Further, none of these references can reasonably be considered to have suggested this specific combination of features either. Claims 2-12 are also neither taught, nor would they have been suggested, by any of EP '343, EP '045 or Meador for at least the respective dependence of these claims on an allowable independent claim 1, as well as for the separately patentable subject matter that each of the claims recites.

Accordingly, reconsideration and withdrawal of the rejections of claims 1-12 under 35 U.S.C. §§102(b) or (e) as being anticipated by any of EP '343, EP '045 and/or Meador are respectfully requested.

In view of the foregoing, Applicants respectfully submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-12 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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JAO:DAT/cfr

Attachment:
Petition for Three-Month Extension of Time

Date: March 15, 2007

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